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cont

16. (New) The display device according to Claim 15, wherein the thickness of the gate insulating film is 110 nm and the thickness of the gate electrode is 90 nm.

REMARKS

Applicant is in receipt of the detailed Office Action mailed November 12, 2002. Claims 1-12 are pending and Claims 9-12 have been withdrawn from consideration. Claims 13-16 are added through this amendment and are likewise believed to be in a condition for allowance. Applicant requests reconsideration of the remaining claims in view of the following remarks.

35 USC § 103 Rejection

The Examiner rejects Claims 1-8 under 35 USC §103 as being unpatentable over Hisao et al (JP 10209467). The Examiner states that Hisao discloses a gate electrode having a thickness of about 100 nm which could be more or less than 100 nm.

Applicant has amended Claims 1 and 5 to include the limitations that said gate insulating film has a thickness that is greater than said thickness of said gate electrode. Referring to the specification at page 7, lines 24-31, making the thickness of the gate electrode less than 100 nm reduces the thermal capacity of the gate electrode. However, as disclosed on page 10, lines 1-14, making the thickness of the gate insulating film greater than the thickness of the gate electrode ensures that the benefits of reducing the thickness of the gate electrode below 100 nm is not offset. Specifically, making the insulating film thicker than the gate electrode reduces the difference in thermal condition between the gate electrode and the insulating substrate. New Claims 13-16 additionally defines this feature by providing specific ranges of the gate electrode and insulating film thickness. Accordingly, for the reasons set forth above, Applicant submits that Claims 1 and 5 and all claims depending therefrom are in a condition for allowance.

CONCLUSION

For at least the above reasons, Applicants respectfully submits that the present invention, as claimed, is patentable over the prior art. If the Examiner has any issues which

he believes can be expedited by a telephone conference, he is encouraged to telephone the undersigned Representative. All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance, and a Notice to that effect is earnestly solicited. It is believed that any additional fees due with respect to the filing of this paper should be identified in any accompanying transmittal. However, if any additional fees are required in connection with the filing of this paper that are not identified in any accompanying transmittal, permission is given to charge Deposit Account 18-0013 in the name of Rader, Fishman & Grauer PLLC.

Respectfully submitted,

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By: 

Ronald P. Kananen, Registration No.; 24,104
Rader, Fishman & Grauer PLLC
Lion Building
1233 20th Street N.W., Suite 501
Washington, D.C. 20036
CUSTOMER NO. 23353
(202) 955-3750
Attorney for Applicants

MARKED-UP CLAIMS

1. A thin film semiconductor device comprising:

an insulating substrate; and

a thin film transistor formed on said insulating substrate, wherein

said thin film transistor is formed in a bottom gate structure having gate electrode, a gate insulating film, and a semiconductor thin film stacked in the order from below upward, and

said gate electrode is made of metallic material having a thickness of less than 100nm[.];

said gate insulating film has a thickness that is greater than said thickness of said gate electrode.

5. A display device comprising:

an insulating substrate;

pixels arranged in a matrix form; and

thin film transistors for driving said respective pixels, wherein said pixels and said thin film transistors are formed as integrated circuits on said insulating substrate, each of said thin film transistors has a bottom gate structure having a gate electrode, a gate insulating film and a semiconductor thin film stacked in the order from below upward, and

said gate electrode is made of metallic material having a thickness of less than 100nm[.];

said gate insulating film has a thickness that is greater than said thickness of said gate electrode.